

### **ABSTRACT OF THE DISCLOSURE**

Complexes of a biotinylated fluorescent polymer and a biotin binding protein and solid supports coated with the fluorescent polymer complexes are described. The complexes can be used as sensors for detecting biological recognition events (*e.g.*, nucleic acid hybridization reactions or enzymatic induced polypeptide cleavage). Methods of making the complexes and methods of using the complexes for detecting the presence and/or amount of a target analyte in a sample are also described. The target analyte can be an enzyme (*e.g.*,  $\beta$ -secretase) or a nucleic acid (*e.g.*, a single stranded or double stranded nucleic acid).

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